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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,498	10/01/2003	Takayuki Suga	03560.003361.	4225
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EXAMINER				
SARPONG, AKWASI				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/674,498

Applicant(s)

SUGA ET AL.

Examiner

AKWASI M. SARPONG

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/02)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____
- Paper No(s)/Mail Date ____

DETAILED ACTION

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mou (6216952) in view of Aikawa (5844730).

Claim 1, Mou discloses an image reading apparatus for reading an image of a document (Fig. 2 Element 2) comprising:

an image reading unit configured to read image of the document (**Fig. 2 Element 2**).

an illuminating unit for illuminating the document (**Column 2 Lines 49-50 Fig. 2 Element 222**).

a plurality of mirrors (**Fig. 2 El. 223, 224, 225 and 226**) configured to reflect light from the document (**Col. 2 Lines 54-65-thus these mirrors are made to reflect the lights from the document**) and a housing configured to support the plurality of mirrors, said housing including a mirror supporting part (**Col. 3 Lines 8-15, Fig. 2 El. 221-thus the casing is put in place to support the mirrors and therefore the casing**

(housing) has a supporting part that hold both the mirror and the casing or housing together) wherein at least one of the plurality of mirrors comprises:

Mou does not disclose a curved reflecting surface and two contact portions, disposed on a side of the mirror on which the curved reflecting surface is provided, configured and positioned to determine the position of the curved reflecting surface in a direction normal to the surface thereof when contacted with the housing.

Aikawa disclose a curved reflecting surface **(Col. 6 Lines 1-9, Fig. 8C)** and two contact portions, disposed on a side of the mirror on which the curved reflecting surface is provided, configured and positioned to determine the position of the curved reflecting surface in a direction normal to the surface thereof when the side of the mirror on which the curved reflecting surface is provided is contacted with the mirror supporting part of the housing. **(Col. 6 Lines 9-34-thus the mirrors are hold in position by base plate 75 as taught by Aikawa in Col. 6 Lines 25-34)**. Since Aikawa teaches a plurality of mirrors used as reflective surface for optical purpose and therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Mou scanning structure to include a curved reflective surface so that the light obtained will be uniform as disclosed by Aikawa in Col. 3 Lines 30-32.

Claim 2, Mou (Fig.2 Element 22) in view of Aikawa (Col. 6 Lines 37-42)
discloses an image reading apparatus, wherein the contact portions provided on the at least one of the mirrors have a flat portion.

Claim 3, Mou (Fig. 2 Element 22) in view of Aikawa (Col. 6 Lines 35-40)
discloses an image reading apparatus wherein the curved reflecting surface and the contact portions of the mirrors are formed integrally.

Claim 4, Mou (Fig. 2) in view of Aikawa (Column 6 Lines1-4 Fig. 8A and 8B)
discloses an image reading apparatus wherein the at least one of the mirror comprises longitudinal position determining parts and lateral position determining parts for respectively and independently determining a longitudinal direction position and a lateral direction position. (R1 and R2 determine the longitudinal and lateral parts).

Claim 5, Mou in view of Aikawa (Column 6 Lines 6-8) discloses an image reading apparatus wherein either the longitudinal position determining parts or the lateral direction position determining parts provided on the at least one of the mirrors are formed on flat parts.

Claim 6, "wherein the longitudinal position determining parts and the lateral position determining parts provided on the at least one of the mirrors determine the position of a reference axis of the off-axis reflecting surface of the at least one of the mirrors," reads on Aikawa's Fig. 10 as you can tell the angle between X and Y.

Claim 7, Mou (Fig. 2) in view of Aikawa discloses wherein the curved reflecting surface, and the longitudinal position determining parts and the lateral position determining parts are formed integrally for the at least one of the mirrors.

Claim 8, Mou in view of Aikawa discloses wherein the housing comprises respective engaging parts with which the longitudinal position determining parts and the lateral position determining parts of the at least one of the mirrors engage, and when the engaging parts, and the longitudinal position determining parts and the lateral position determining parts engage with each other, each portion of the engaging parts can slide in a direction orthogonal to a position determining direction, thereby allowing thermal expansion of the at least one of the mirrors. **(Column 3 Lines 25-32 Fig. 5 Elements 229).**

Claim 9," a spring configured and positioned to press the two contact portions against the housing to determine the position of the curved reflecting surface" reads on Aikawa's means of adhering the reflecting mirrors to the flat base as disclosed in Col. 6 Lines 35-40.

Claim 10, Mou in view of Aikawa discloses wherein the plurality of mirrors, each of which comprising the curved reflecting surface **(Col. 6 lines 25-40, Fig. 10 shows clearly that the whole mirrors are curved)** and the two contact portions, **(base plate 75)** is configured to form the image of the document onto the image forming unit, and a reference-axis ray has a different incident direction and reflected direction with the

curved reflecting surface **(Aikawa inherently teaches that incident and the reflected are different from the curved surface as taught by Col. 6 Lines 48-55) .**

Claim 11, Mou (Col. 2 lines 35-55-thus the scanning unit is moved by the power of the motor) in view of Aikawa discloses a scanning unit configured to move the housing to perform scanning of the image of the document, wherein the housing further supports the image reading unit and the illumination unit.

Claim 12, Mou in view of Aikawa (Col. 6 Lines 35 48-55) discloses wherein the two contact portions are adjacent to the curved reflecting surface.

Claim 13, Mou in view of Aikawa **(Col.6 Lines 1-10, Fig. 7 shows clearly that the curved reflecting mirrors are in between supporting structures)** discloses wherein the curved reflecting surface is between one of the two contact portions and the other of the two contact portions.

Response to Arguments:

Objection to Drawings:

The Examiner has considered the new drawings filed by the applicant.

New ground of rejection:

Applicant's arguments filed 05/28/2008 have been fully considered but they are not persuasive.

With respect to applicant's argument that Mou in view of Aikawa does not disclose an image reading apparatus for reading an image of a document, comprising an image reading unit configured to read the image of the document, an illuminating unit configured to illuminate the document, a plurality of mirrors, and housing.

In reply: Mou discloses that the plurality of mirrors is configured to reflect light from the document (**Col. 2 Lines 54-65, Fig. 2 El. 223, 224, 225 and 226-thus Mou inherently teaches that these mirrors are put in place to reflect light ray coming from the light source**) and the housing (**Casing 121**) is configured to support the plurality of mirrors (**Col. 3 Lines 15-25-thus the casing is put in place to provide support for all the components in it**). Mou does not clearly teach a curved shaped mirror used for reflection.

Aikawa discloses at least one of the pluralities of mirrors comprises a curved reflecting surface, (**Col. 6 Lines 25-50-thus the Fresnel mirror is a plurality of mirror which forms a curved surface**) and two contact portions (**screws**), disposed on a side of the mirror on which the curved reflecting surface is provided, configured and positioned to determine the position of the curved reflecting surface in a direction normal to the surface thereof when contacted with the housing (**Col. 6 Lines 35-38-thus the mirrors are adhered or hold together to the base plate by this contact portions**).

Since Aikawa teaches a plurality of mirrors used as reflective surface for optical purpose and therefore it will be obvious to one ordinary skilled in the art at the time the invention was made to modify Mou scanning structure to include a curved reflective

surface so that the light obtained will be uniform as disclosed by Aikawa in Col. 3 Lines 30-32.

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AKWASI M. SARPONG whose telephone number is (571)270-3438. The examiner can normally be reached on Monday-Friday 8:00am-5:00pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Poon can be reached on 571-272-7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/King Y. Poon/
Supervisory Patent Examiner, Art Unit 2625

AMS
02/22/2008

